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PREGNANCY TOXAEMIA IN GRASSLAND FLOCKS*

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INTRODUCTION

Pregnancy toxaemia is one of the most important metabolic diseases of sheep and causes a considerable annual loss to the sheep industry of this country. The incidence in individual flocks is often high and mortality is frequently over 90 per cent. of affected animals.

This paper comprises a review of some of the observations made on certain clinical aspects of the disease. As a result of this work, it is considered that in the great majority of cases the disease is preventable and prophylactic measures are therefore considered in some detail.

Pregnancy toxaemia is usually defined as an acute metabolic disease affecting ewes during the last few weeks of gestation. It is characterised by acetonaemia with fatty infiltration of the liver, and often associated with a low blood sugar level. The disease tends to affect ewes carrying twins or triplets, hence the synonym twin lamb disease, and it is common after periods of snow, a feature which has led to the name snow blindness. The principal symptoms are those suggestive of a nervous and muscular disturbance.

Groenewald *et al.* (1941) state that one of the first definite references to pregnancy toxaemia appears to be that of Steele, who in 1890 described a condition which he termed "parturient fever in sheep" and which was almost undoubtedly the pregnancy toxaemia we know to-day. The condition was first described in Great Britain by M'Fadyean in 1924 in a paper on "Fatty infiltration of the liver as a cause of death in pregnant ewes." Since then the disease has been described by many observers, excellent descriptions of the symptoms being recorded by Greig (1929), Dayus & Weighton (1931) and Hopkirk (1934), and summaries of the literature on many aspects of the disease have been produced by Groenewald *et al.* (1941) and Sampson (1947).

The disease known as pregnancy toxaemia occurs in sheep in poor condition as well as in fat sheep (M'Fadyean, 1924; Gilruth, 1924; Bosworth, 1929; Van Rensburg, 1931; Dayus & Weighton, 1931; Leslie, 1931; Clark, 1943; Phillipson, 1950). It has been considered that the condition is a single entity and the fact that very different environmental conditions are associated with its occurrence has resulted in conflicting views concerning its aetiology. As will be considered later, there is evidence that varying systems of feeding may contribute to its development and the exciting aetiological factor may be related to the pattern of nutrition during pregnancy rather than obesity or poverty.

* This paper formed part of a thesis for the degree of Master of Veterinary Science in the University of Liverpool.

AETIOLOGY

The disease has been experimentally reproduced by fasting pregnant ewes in the last month of gestation (Roderick *et al.*, 1937; Fraser *et al.*, 1938) and by reducing the rations of pregnant ewes in good condition (Hopkirk, 1934; Fraser, *et al.*, 1938; Snook, 1939; Groenewald *et al.*, 1941; Parry, 1950). These observations were confirmed in this study when it was found that typical clinical pregnancy toxaemia could be produced by fasting a ewe for 48 hours when pregnant with twins in the 19th month of gestation. Clark & Groenewald (1941) found that following under-nutrition the disease could be produced in non-pregnant ewes but "under conditions which would seldom arise under normal farming practice." This was probably a starvation ketosis, which may be comparable to pregnancy toxaemia as it is seen in hill ewes carrying single lambs and associated with severe weather conditions.

Roderick *et al.* (1937) believed that pregnancy toxaemia is due to twin pregnancy imposing excessive demands on the maternal food stores, in the absence of an adequate nutritive intake by the ewe, and in support of this Fraser *et al.* (1938) found that the caloric value of the diet was inversely correlated with the frequency of occurrence and severity of symptoms. In their experiments multiple pregnancy with under-nutrition resulted in severe symptoms. McLinden (1937) reported that the disease occurred in flocks where feed was good in the autumn followed by scarcity of herbage and overstocking during the latter part of pregnancy, and Clark & Groenewald (1941), following experimental reproduction of the disease by reducing the rations of their sheep, concluded that if pregnancy toxaemia is due to interruption in the diet of an animal, this may be brought about by lack of feed, inclement weather, any sudden change in environment or disturbances in the function of the digestive tract.

Sampson & Hayden (1935), on the basis of their findings that affected ewes had a marked ketosis and an extremely high ketonuria, considered that the disease was due to disturbance in carbohydrate metabolism, either lack of sufficient carbohydrate-forming material in the ration or an insufficient body store of carbohydrate, and a similar view was put forward by Underwood *et al.* (1943).

Phillipson (1950) advanced the theory that when ewes are subjected to a sudden fast there must be a "switch over" in metabolism with greater utilisation of maternal body stores. This must be more rapid in ewes bearing twins if both mother and foetuses are to maintain themselves without any ketosis developing. Hence ketosis may be a measure of the ability of an animal to alter its metabolism under adverse circumstances and those ewes which fail to respond rapidly will show ketonaemia and possibly clinical symptoms of pregnancy toxaemia. The effect of fasting was not so marked in ewes on poor rations, possibly because they were already attuned to the use of body fat, so that the "switch over" was not so disturbing. This may account for the observations of Gilruth (1899; 1924), M'Fadyean (1924), Greig (1929), Bosworth (1929) and Clark (1943) that fat ewes were particularly susceptible to the disease.

Other theories advanced include the absorption of toxins

from the uterus (Hopkirk, 1934), and Marsh (1928) regarded the disease as an auto-intoxication predisposed by the fatty liver of late pregnancy. Commonly, however, as noted by Sampson (1947), lambs are found alive even in the advanced stages of pregnancy toxaemia.

Clinical Observations

Twenty-nine cases were observed during the 1951 and 1952 lambing seasons. Four were brought to the laboratory for *post-mortem* examination only and 25 were admitted in various stages of the disease, and of these, 11 ewes survived.

Various forms of treatment were investigated. In some cases haematological examinations (total and differential leucocyte counts) and biochemical estimations were carried out. Folin and Wu's method was used for blood sugar, plasma acetone was estimated by a spot method, blood urea by Ambarde's method and haemoglobin by Sahli's method.

M'Fadyean (1924) stated that the disease particularly affected the best breeds of British sheep in which the tendency to fat accumulation had been brought to a maximum. The breeds involved in this study were mainly Down breeds or breeds which owe their improvement to Down breeds, and comprised 12 Clun Forests, six Kerry Hills, five Dorset Downs, two Ryelands, one Hampshire Down, one Welsh and two Crossbreds. The varying breed incidence may be a reflection of the popularity of the breeds in the area, but the studies made indicated that early maturing sheep with a high rate of twinning were especially susceptible.

Dayus & Weighton (1931) observed that the disease particularly affected older ewes. All the cases recorded occurred in ewes which had previously carried lambs and it was not seen in gimmers. The disease does occur, however, in young ewes and the greater incidence in older animals, observed in this study, may be due to a higher incidence of twinning, the production of larger and heavier lambs at birth, or the effect of previous parturition and milk production possibly combined with suboptimal food supplies. The fact that four animals survived pregnancy toxaemia and bred again the following season, and did not develop the disease a second time, suggests that one attack does not render sheep more prone to a recurrence.

Ten of the 29 ewes were pregnant with triplets, 18 with twins, and one ewe with foot rot, which consequently did not graze well, had a single lamb.

The majority of the ewes, when symptoms first appeared, were in good condition, which supports the observations of M'Fadyean (1924), Gilruth (1924) and Greig (1929). This does not mean, however, that they might not have been losing weight at the time. Affected animals lost weight rapidly, undoubtedly due to the occurrence of anorexia at a time when foetal demands were at a maximum.

In those cases which recovered, parturition appeared to be the most important factor. Six of the 11 ewes which survived lambed normally and four recovered following caesarean section. The remaining ewe had one living lamb and two mummies. Recovery, therefore, took place when the demands on the maternal food supplies had been reduced, either following surgical removal or natural expulsion of the lambs at parturition. Termination of pregnancy was not, however, always associated with recovery. Six ewes died after lambing but four of these produced dead lambs and it was noted that subsequent uterine infection was less likely to develop if lambs were alive at the time of parturition. Three ewes were destroyed due to prolonged recumbency and progressive weakness and five died without or despite treatment.

Predisposing factors.—Apart from foot rot already mentioned, one ewe had corneal opacity which was not related to the pregnancy toxaemia. The resultant blindness was, however, probably a predisposing factor by reducing food intake. Again, these observations emphasise the importance of an adequate food intake for the pregnant ewe, particularly in the last two to three months of gestation. The feeding of the 29 cases was as follows:

No supplements (grazing only)	13
Hay only	8
Roots only	1
Hay + roots	5
Hay + concentrates	1
Roots + concentrates	1

Whilst the grazings of all these sheep were not examined, the state of the majority of pastures in late winter is well known. It is interesting that although 13 of the cases had grazing only, 14 were provided with hay, seven with roots (rape, mangolds or kale) and in only two was concentrate feeding (crushed oats or dredge corn) practised.

Many workers regard lack of exercise as an important predisposing factor in the development of pregnancy toxaemia (Gilruth, 1924; Greig, 1929; Dayus & Weighton, 1931; Cameron & Goss, 1940), and in investigating this aspect of the problem ewes were kept inside on good rations and without exercise during the last few weeks of pregnancy. This resulted in a steady gain in bodyweight without any signs of pregnancy toxaemia or even mild acetonaemia.

Symptoms.—The symptoms shown were in general typical of the disease as described by Dayus & Weighton (1931) and Hopkirk (1934).

Usually the first symptoms noticed were depression, failure to graze and disinclination to move. The smell of acetone in the breath was a useful aid in diagnosis. Usually anorexia was complete but in some cases there was a variable appetite. It was noted that not uncommonly a ewe which refused food would eat if offered a complete change of diet.

Mammary development was often not comparable with the stage of pregnancy which the ewe had reached, indicating that an assessment of the proximity of parturition on the basis of udder enlargement can be quite erroneous in cases of pregnancy toxaemia.

Six of the 29 cases showed convulsions; three were completely blind and vision in many others was defective, but there was no apparent ocular abnormality. In one case sight gradually returned after recovery. Convulsions were characterised usually by initial tremors of the facial muscles followed by those of the rest of the body, and often the animal fell over and there was extensor spasm of the limb muscles, with temporary loss of consciousness.

Whether there is an increased thirst in pregnancy toxaemia is difficult to determine, but ewes with the disease often held their lips in water for long periods and some preferred to stand with their forefeet in the water trough: it is probable that many pregnant ewes which are "found drowned" by the shepherd are cases of pregnancy toxaemia.

Faeces were variable in consistency. In some cases they were normal or rather firm, but often diarrhoea developed towards the termination of the disease, particularly if dead lambs were present *in utero*.

Mortality and duration of illness.—Dayus & Weighton (1931) stated that mortality is generally over 90 per cent. and that death occurs in 36 hours to eight days. In this

study 18 of the 29 cases died, that is, a mortality of 62 per cent. The duration of illness in 20 cases was 2 to 12 days with an average of seven days. The average duration of the 29 cases was 12 days (range: 2 to 46 days) and the 11 ewes that survived were affected on an average for 12 days. These figures depend to some extent on the shepherd's ability to recognise the early symptoms of the disease.

Lamb weights, mortality and age at foetal death.—The lamb mortality in the 29 ewes was 77·6 per cent. Foetal age in affected sheep was determined on the lambs of six ewes and ranged from 126 to 137 ± 2 days. It was found that the average duration of pregnancy in normal ewes was 147 days so lambs were approximately three weeks premature. Twins from six ewes averaged 11½ lb. total weight and triplets from four ewes averaged 19¼ lb., which would appear to be normal weights.

It is well known that multiparity increases the incidence and this was confirmed, the average number of lambs per affected ewe being 2·3.

There was some evidence that death of the foetus sometimes takes place prior to or during the course of the disease and this had occurred in five cases, in three of which decomposition was commencing. There was no evidence, however, that foetal death is a primary aetiological factor; in fact, out of eight caesarean sections in only one case were the lambs dead at the time of operation and these were fresh. Eight ewes produced living lambs at birth and the lambs of five of these survived.

Biochemistry.—The blood of 24 of the ewes was examined. In 13, acetone estimations only were carried out and in 11, blood sugar, blood urea and haemoglobin also.

Twenty-two of the ewes had acetonaemia. The maximum plasma acetone value was 70 mg. per cent. The majority of samples were in the range of 20 to 50 mg. per cent. Two had normal acetone values and no acetone could be detected in the breath of these cases. Both these ewes had dead oedematous lambs *in utero*. The acetonaemia disappeared rapidly (in 24 to 48 hours) following lambing or caesarean section.

Blood sugar varied from 20 to 53 mg. per cent., most of the samples from affected ewes being in the range 30 to 40 mg. per cent. Seven of the 11 ewes examined had hypoglycaemia (blood sugar 20 to 33 mg. per cent.), in one case the blood sugar was variable, in two it was normal and one ewe with uraemia (blood urea: 212 to 247 mg. per cent.) developed a terminal hyperglycaemia (blood sugar up to 111 mg. per cent.). This was a ewe pregnant with dead putrid lambs. Apart from this animal one had a terminal uraemia associated with toxaemia after lambing, in which the blood urea value rose to 205 mg. per cent. before death. All other samples examined showed no abnormality in blood urea, a finding which differs from that of Sampson & Hayden (1936). The observations indicated that uraemia occurs only when dead lambs are present in the uterus for any length of time or when a terminal toxaemia develops. When death of lambs *in utero* occurs without abortion, acetone disappears from the blood in the same way that it does (within 24 to 48 hours) after parturition. Hence, typical symptoms of the disease may occur without acetone being detectable in the breath or blood. It is probable that these are cases of pregnancy toxaemia in which the lambs have died but are not expelled, resulting in biochemical recovery but not clinical improvement. This confirms the observation of Clark *et al.* (1943), who stated, "A point of interest is the frequency of apparent death of the foetus with partial recovery of the ewe but without abortion. It can be said that when a ewe shows symptoms of domsiekte and then lingers on without either lambing or aborting, it can be assumed that the foetus is dead and the ewe will eventually die of toxaemia." On the other hand, one case did recover and at parturition produced one living lamb and two mummies whose foetal age corresponded with the ewe's recovery.

These observations suggest that two types of foetal death can occur:

1. Where *all* the lambs *in utero* die but are not expelled. This results in the disappearance of acetone and a return to normal blood sugar values. If putrefaction then proceeds, blood urea begins to rise and the ewe dies of toxaemia showing biochemically a terminal uraemia and possibly also hyperglycaemia. There is no clinical recovery in these cases following death of the lambs.
2. Where at least one lamb survives *in utero* and may be carried to full term whilst the others may undergo resorption and mummification. In this case there is no toxaemia or uraemia. The ewe shows biochemical and also clinical recovery from the disease.

Haemoglobin values in clinical cases were similar to those obtained in normal pregnant ewes.

The few samples of urine examined were positive for acetone and albumin. On *post-mortem* examination the majority of cases had practically no urine in the bladder and Sampson & Hayden (1936) reported an oliguria in cases of pregnancy toxaemia.

Haematology.—The total and differential leucocyte values were examined in eight cases. Apart from one which was normal, there was a marked rise in polymorphs (range 42 to 93 per cent.) and a fall in lymphocytes (range 46 to 7 per cent.), but the total white cell count remained constant. Most cases also showed an absence of eosinophiles. These findings confirm those of Groenewald *et al.* (1941). These workers also reported a significant correlation between the percentage neutrophiles and the blood ketone levels, but this was not noted in this study.

Differential Diagnosis.—It has been observed that the following conditions have been confused with pregnancy toxaemia in the field:

1. Lambing sickness (hypocalcaemia) which may affect pregnant ewes as well as those which have lambed. Where there is any uncertainty, intravenous calcium therapy will differentiate the diseases, producing a spectacular recovery in cases of lambing sickness.
2. Coenuriasis.
3. Acute Fascióliasis.
4. Occasionally a difficult lambing case is mistaken by the owner for one of pregnancy toxaemia.

It is considered advisable, particularly in ewes showing typical symptoms of the disease but in which no acetone can be detected in the breath, to examine the animal *per vaginam*, as the case may be one of prolonged dystocia, in which dead lambs may be present in the vagina without any parts protruding through the vulva.

Treatment.—Dayus & Weighton (1931) found glucose given intravenously or subcutaneously was quite ineffective and that udder inflation was of no value. Similarly, Cameron & Goss (1940) found that glucose treatment, even when administered intravenously in the early stages, was valueless although it reduced the acetonaemia. Leslie (1931) found that 40 per cent. of cases responded to the oral administration of treacle. Hopkirk (1934) used glucose intravenously, subcutaneously and *per os*, insulin, calcium chloride, formaldehyde, adrenalin and sodium bicarbonate and found them all ineffective. Van Rensburg

(1931), in South Africa, found that the disease first could be checked and then completely eliminated by administering 1 oz. of bone meal daily to pregnant ewes and Masheter (1942) described the use of acetylcholine bromide subcutaneously, claiming good results. Clark & Groenewald (1941) tried glucose, vitamin B, and rumen stimulants as therapeutic measures. Therefore, although many forms of therapy have been used in the past, none appears to be of universal value and no really satisfactory line of treatment is available at present, but, in a recent paper, Griffiths (1952) claimed recoveries following the use of glycerol *per os*.

In this investigation various forms of treatment were tried. They included glucose intravenously and subcutaneously, calcium borogluconate, choline chloride, wheat germ oil, deoxycortone acetate, normal sheep plasma intravenously and subcutaneously, and sheep liver extract subcutaneously and *per os*. None of these substances appeared to have any specific therapeutic value, but glucose when given in daily doses of up to 120 grammes in 40 per cent. solution intravenously or 90 grammes in 30 per cent. solution subcutaneously, occasionally had a beneficial effect by maintaining the ewe temporarily until parturition.

Feeding and Management in Relation to the Disease

A fall in bodyweight was observed to be a prodromal symptom of pregnancy toxaemia. A study was therefore made of the weekly weight changes of ewes kept under ordinary farm conditions throughout pregnancy. This revealed that many animals show no appreciable gain in weight and some in fact lose weight, particularly in the last few weeks of gestation. It would seem desirable that pregnant ewes should show a steady weight gain during pregnancy and in order to satisfy this requirement it is necessary in many flocks to feed supplements to the ewes, particularly during the latter part of gestation. As natural food supplies are low at this time of the year, frequent changes of pasture may, on many farms, be a means of improving the nutritional standards.

It was observed that supplementary feeding with concentrates during the latter part of pregnancy also resulted in lambs with a greater vitality at birth and stimulated milk secretion in the ewes. The birth weight of lambs was below average in ewes losing weight in the last few weeks of gestation and there was a high incidence of stillbirths. Whilst ewes carrying twins tended to gain more during the last four weeks of pregnancy than those with singles (9 lb. as opposed to 6 lb.), the length of time before parturition during which concentrate feeding was practised seemed to have a much greater influence on weight gains. The average gain in weight of 19 ewes at pasture and receiving ½ lb. concentrates per head daily for from one to four weeks before lambing was 10·5 lb. Those on supplementary feed for only one week before lambing averaged a gain of 5·5 lb. during the last four weeks of gestation, those fed on supplements for two weeks gained an average of 11 lb. in the last four weeks, with three weeks feeding the gain was 15·3 lb. and with four weeks supplementary feeding the weight increase was 21 lb.

It was observed that any disturbance in nutrition due to inclement weather, poor pasture or reduction in grazing following foot rot was quickly reflected by a loss in bodyweight.

Blood samples from normal pregnant flocks receiving no additional feeding indicated that many apparently normal ewes show mild ketonaemia (10 to 25 mg. per cent. acetone) without symptoms of pregnancy toxaemia. Generally this ketonaemia appeared during the last eight weeks of pregnancy only, a further indication of the need to supplement natural food supplies at this time.

Discussion

Many grassland sheep are not given supplementary food during pregnancy and this practice is often reflected in a failure to gain in weight or even a tendency to lose weight as pregnancy advances. The fact that pastural growth is deteriorating during this period probably aggravates the situation and even the additional feeding of hay or roots may not restore the deficiency. Sheep which are unable to graze properly as a result of foot rot or other diseases are especially vulnerable to unfavourable environmental conditions. It would be reasonable to conclude that many ewes are in a state of "negative nutritive balance" towards the end of pregnancy.

In the human the importance of nutrition during pregnancy has been stressed by Huggett (1944). The human foetus deposits 70 per cent. of its total birth weight during the last three months of pregnancy and he observed that an inadequate nutrition, depending on its severity, affects in the following order:

(a) the maternal well-being, health, blood and food reserves;

(b) the foetal stores, health and bodyweight.

Nutrition would appear to be equally important in ewes. Wallace (1948), from experiments on the effect of low and high planes of nutrition on pregnant ewes, observed that the gravid uterus continued to grow "not only at the expense of the mother's accumulated reserves, but even when her vital structures are being depleted and she is reduced to a state of extreme emaciation." In this investigation it was found that the lambs removed from cases of pregnancy toxaemia had attained their normal birth weight. As most cases develop at between 120 and 130 days of pregnancy this would seem to be the time when the relationship between mother and foetus breaks down to the detriment of maternal health.

Although the disease as it is seen in grassland and hill sheep occurs under very different circumstances, the nutritive conditions are essentially the same. Periods of snow, when there is usually a high incidence in hill flocks, and marked deterioration of pastural conditions as winter advances are both factors which represent an aggravation of the circumstances which are present on many lowland grass farms. The identical clinical, pathological and biochemical findings support this contention. In close folded arable flocks the condition again appears to be superficially different but in many flocks its occurrence may be traced to a tendency to move sheep towards the end of pregnancy on to crops which are nutritively insufficient to meet the relatively heavy demands of the ewe during this period. On some farms this practice is deliberate in the belief that ewes should be in only fair condition at lambing, as many farmers appear to believe that ewes tend to become excessively fat towards the end of gestation and that this excessive fatness is associated with a high incidence of maternal dystocia at parturition. As a result of this belief many flocks receive no supplementary feed or, if they do, hay only is offered and often only during severe weather conditions. In actual fact, it is very much to be doubted whether this assumption on the part of the sheep farmer is correct. It is much more likely that in the majority of flocks at this time, and particularly in ewes carrying twins or triplets, in reality the animals are gaining in bulk rather than weight and this increased bulk gives the owner a false impression of excessive fatness.

The incidence may vary from year to year, depending to some extent on climatic conditions. A mild winter or early spring with rapid regrowth of herbage may reduce the number of cases significantly. Similarly, flocks which lamb later (March or April) may be less affected than those parturient in the early months of the year.

The disease can be attributed to a negative nutritive balance during late pregnancy rather than to actual starvation. The actual causal factor is, therefore, the inability of the ewe to accustom herself quickly to a depressed state of nutrition and sudden lowering of nutritional status is apt to be more serious than a persistently low food intake throughout pregnancy. When the food intake does not meet the daily requirements, the ewe evidently finds it difficult readily to convert her own reserves. Exercise, which has been reported by many observers to be of value, may be effective by unlocking stores of muscle glycogen and rendering them available as a source of assimilable carbohydrate, but observations made in this study indicate that, provided animals are receiving a generous food allowance, lack of exercise is of no importance in the development of the disease. Exercising the flock may aid in the early detection of clinical cases, as one of the first symptoms shown by affected animals is that they very soon lag behind the rest of the flock when this is driven for any distance.

Supplementary feeding including the use of concentrates, would appear to be the best method of preventing pregnancy toxaemia and the nutritional level should be gradually increased with advancing pregnancy, particularly during the last two months; Hammond (1948) observed that "it is only during the latter half of pregnancy that the growth of the lamb makes any large demand on the ewe's nutrition." This extra feeding would also have the effect of producing lambs with more vitality at birth and improve milk production in the ewes.

In adopting concentrate feeding, it is essential that it should start by the 110th day of gestation if it is to be of value during the particularly susceptible period of pregnancy. Furthermore, adequate trough space must be provided so that all the ewes get their ration. In large flocks it may be advisable to feed the more susceptible ewes—animals heavily pregnant, in poor condition or foot rot cases—separately, as they cannot compete with the more robust sheep for trough food.

Summary

Clinical, biochemical and haematological observations made on 29 cases of pregnancy toxaemia are described. The results indicate that the development of pregnancy toxaemia depends upon the relationship between foetal demands and maternal food supplies during pregnancy, particularly near term. It is considered that the disease could be prevented by supplying an adequate food intake for the pregnant ewe, particularly during the last six weeks of gestation. Observations recorded in normal flocks also illustrate the desirability of supplementing natural food supplies at this time.

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References

Bosworth, T. J. (1929). *Vet. Rec.* **9.** 1072.
Cameron, H. S., & Goss, H. (1940). *J. Amer. vet. med. Ass.* **96.** 165.
Clark, R. (1943). *Ondest. J. vet. Sci.* **18.** 279.
——— & Groenewald, J. W. (1941). *J. S. Afr. vet. med. Ass.* **12.** 97.
———, ——— & Malan, J. R. (1943). *Ondest. J. vet. Sci.* **18.** 263.
Dayus, C. V., & Weighton, C. (1931). *Vet. Rec.* **11.** 255.
Fraser, H. H., Godden, W., Snook, L. C., & Thomson, W. (1938). *J. Physiol.* **94.** 346.
Gilruth, J. A. (1899). *6th Ann. Rep. Dept. Agric. N.Z.* p. 69.
———. (1924). *Dept. Agric. N.Z. Bull. 73.*
Greig, J. R. (1929). *Vet. Rec.* **9.** 509.
Griffiths, W. R. (1952). *Ibid.* **64.** 734.
Groenewald, J. W., Graf, H., & Clark, R. (1941). *Ondest. J. vet. Sci.* **17.** 225.
———, ———, Bekker, P. M., Malan, J. R., & Clark, R. (1941). *Ibid.* **17.** 245.
Hammond, J. (1948). "Farm Animals: Their breeding, growth and inheritance." London: Arnold.
Hopkirk, C. S. M. (1934). *Aust. vet. J.* **10.** 59.
Huggett, A. St. G. (1944). *Proc. Nutr. Soc.* **2.** 20.
Leslie, A. (1931). *Vet. Rec.* **11.** 1148.
Marsh, H. (1928). *J. Amer. vet. med. Ass.* **74.** 724.
Masheter, J. W. H. (1942). *Vet. Rec.* **54.** 137.
M'Fadyean, J. (1924). *J. comp. Path.* **37.** 287.
McLinden, J. M. (1937). *Vet. J.* **93.** 212.
Parry, H. B. (1950). "Toxaemias of Pregnancy." (Ciba symposium). p. 85. London: Churchill.
Phillipson, A. T. (1950). *Ibid.* p. 94.
Roderick, L. M., Harshfield, G. S., & Hawn, M. C. (1937). *J. Amer. vet. med. Ass.* **90.** 41.
Sampson, J. (1947). *Univ. Illin. Agr. exp. Sta. Bull. 521.*
——— & Hayden, C. E. (1935). *J. Amer. vet. med. Ass.* **86.** 13.
——— & ———. (1936). *Cornell Vet.* **26.** 183.
Snook, L. C. (1939). *J. Physiol.* **97.** 238.
Steele, J. H. (1890). "Diseases of Sheep." (Cited by Groenewald *et al.*, 1941).
Underwood, E. J., Curnow, D. H., & Shier, F. L. (1943). *Aust. vet. J.* **19.** 164.
Van Rensburg, S. (1931). *Vet. Rec.* **11.** 1147.
Wallace, L. R. (1948). *J. Agric. Sci.* **38.** (3 pts.) 93, 243, 367.

PROGRESS IN FIGHT AGAINST WORLD SHEEP DISEASES

In reference to Dr. R. V. Alexander's six weeks' visit to the United States, as a guest of the Department of Agriculture, to which reference was made in our issue of May 2nd, *South Africa* reports him as saying, in New York, that despite eight years of unparalleled progress in veterinary medicine, diseases still take far too heavy an annual toll of the world's sheep population. There was no major sheep disease for which a cure or preventive was not available, yet more than 5,000,000 sheep in South Africa alone died from sickness last year.

As head of the largest sheep research station in the world, at Pretoria, Dr. Alexander, who is Director of Veterinary Services for the Union of South Africa, has directed the development or perfection of vaccines for four of the most serious diseases attacking sheep. Beginning with an anthrax vaccine eight years ago, the Pretoria laboratory has produced vaccines for blue tongue, Rift Valley fever, and enterotoxaemia. The last of these was pioneered in Australia, but the improved form now in use was perfected three years ago in South Africa. These four diseases, together with quarter evil, lamb dysentery, and general worm infections, are classed by Dr. Alexander as the chief enemies with which veterinary science must deal.

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Erratum.—In Mr. G. H. Arthur's contribution to the discussion of Dr. Gilbert B. Young's paper "Genetic Aspects of Fertility and Infertility in Cattle" (Society for the Study of Animal Breeding) [*Vet. Rec.* **65.** 278] for "not" read "now" at line 35. The relevant sentence should read: "With regard to infertility in the cow, it was now agreed that this was for the most part of a temporary nature. . . ."

CLINICAL COMMUNICATION

BOVINE MASTITIS DUE TO YEASTS

A. STEELE-BODGER,
LICHFIELD, STAFFS

During the past few months I have encountered seventeen cases of mastitis in lactating cows, due to yeasts. In all cases confirmatory laboratory diagnosis has been carried out: four were mixed *Streptococcus agalactiae*-yeast infections, three mixed staphylococcus-yeast, and ten pure yeast infections.

The mixed infections quickly caused the usual type of clots in the milk according to the organism responsible. Treatment with antibiotics or sulphonamides cleared up the bacterial infections rapidly, but the affected quarters remained hot, indurated and unusually painful.

In pure yeast infections the yield is greatly diminished but the only visible change in the milk is that it becomes rather granular and thin with very occasional small clots. The striking features are the rapid and marked induration of the affected quarter, together with the acute pain demonstrated on palpation. Temperatures varied from 102° to 104·2°F. In all cases brewers' grains formed part of the ration.

In both mixed and pure yeast infections the use of antibiotics appeared to accelerate and aggravate the induration and pain.

The only agent found to be of any use was intramammary iodine in liquid paraffin. When this was used shortly after the onset of symptoms, without any exhibition of antibiotics, improvement was apparent within 24 hours, and in all cases but one the udder appeared normal within 72 hours.

In mixed infections, particularly following antibiotic treatment, two iodine infusions at 48-hour intervals were required. Following infusion the quarter should not be stripped for at least 24 hours. The amount of iodine solution used was 50 c.c. Larger doses did not appear to give more favourable results.

Below are two typical case histories:—

CASE G.1: PEDIGREE GUERNSEY COW

18.1.53.—Quarter hard, hot and very painful, temperature 103·4°F. Cow slightly off its food, and milk yield greatly reduced. The milk contained staphylococcal clots, but was otherwise normal. The owner had already inserted 3 × 100,000 units penicillin at consecutive milkings with no effect. Streptomycin 100,000 unit tubes were administered at consecutive milkings.

19.1.53.—Quarter more painful and indurated, animal off food and uneasy. Temperature 104·2°F. Secretion thin and granular. 50 c.c. intramammary iodine were infused into the quarter after stripping out.

20.1.53.—Informed by owner that there was a distinct improvement.

21.1.53.—Quarter much softer, no pain, temperature 101·8°F. Secretion more milky and copious. 50 c.c. intramammary iodine infused.

23.1.53.—Quarter normal.

CASE W.3: FRIESIAN HEIFER

16.2.53.—Quarter hard and painful, but secretion almost unaltered although reduced in volume. Temperature 102·3°F. No previous treatment had been carried out. 50 c.c. intramammary iodine infused into the quarter.

18.2.53.—Quarter painless, cool, and almost normal on palpation. No further treatment.

19.2.53.—Quarter normal and milk yield returned to previous level.

ABSTRACTS

Husk in Adult Cattle*

Husk of cattle [caused by *Dictyocaulus viviparus*] is well known among calves and yearling cattle, but its widespread occurrence among milking cows during the winter of 1951-2 was new to our experience. In some milking herds almost every animal was affected. Taylor briefly outlines our incomplete knowledge of the life history of *D. viviparus*. The infective larvae develop in the cattle dung on the pastures in a minimum time of five days. In the cattle they reach sexual maturity in a month, so that the complete life cycle requires a minimum time of five weeks.

Important features of the relationship between husk and grassland management are:—

1. The lungworms exist on practically every farm on which cattle are kept;
2. The lungworms cannot multiply in the cattle;
3. A heavy infestation is necessary to cause disease.

The most important factor, therefore, is successful development of the non-parasitic larvae on the pastures. For this, moisture and air (oxygen) are necessary, so that long, thick herbage and plants with large leaves, such as Ladino white clover and S.100 wild white clover, foster the development and persistence of the moist environment and moist dung which encourage the development of the larvae. On a short grass sward, on the other hand, the dung is drier and is covered with a crust which excludes air, so that the larvae do not develop so successfully. [Coprophagous beetles, however, may bore holes and burrow through comparatively dry cattle dung and thus may aerate it.—*Abstractor.*] The chain harrow also encourages larval development by spreading dung through the moist microclimate and by improving aeration.

The larvae do not readily climb pasture plants, as those of stomach and intestinal nematodes do. Lungworm larvae rarely climb higher than half an inch and then curl up into a tight coil and await ingestion by the cattle. For this reason cattle pick up the maximum number of larvae when they graze the pastures close to the ground. They may do this, for instance, when they are forced to graze intensively-managed ley pastures.

Taylor has found that, for reasons as yet unknown, most of the infective larvae have disappeared from the pasture plants within a month after they have reached the infective stage. It has also been found that the resistance developed by cattle to lungworms, once thought to be sufficiently strong to protect cattle provided that their nutrition was adequate, does not protect them effectively against massive infections with the infective larvae.

Work is in progress to confirm or modify the interim conclusions set out above. These conclusions indicate that farm practice should:—

1. Avoid the use of the chain harrow, except in dry weather when the herbage is short and the ground surface exposed. Under these conditions it does good;

2. Provide a break in continuous use of ley pastures. Lush pastures, especially if they are rich in clover, favour development of infective larvae and maximum intake of these larvae when the cattle go over these pastures two or three times, grazing them near to the ground. The resistance of the cattle may thus be broken down. It is better to reserve part of the pasture after grazing it for silage or hay so that the number of larvae may be reduced.

* **Husk in Adult Cattle.** TAYLOR, E. L. (1952). *Agriculture.* **59.** 109–112.

3. Ensure that, when strip-grazing is used, the cattle are not allowed too far back on the parts of the pasture already cleared.

4. Utilise sheep present on a dairy farm, to clean up larvae of lungworms of cattle, which cannot infect the sheep. The disappearance of sheep from dairy farms may have contributed to the increase of husk in cattle.

G. L.

* * * * *

Defluorination of Superphosphate for use in Animal Nutrition*

Under South African conditions there are three recognised methods of supplying additional phosphate to animals on pastures deficient in P. These methods are known respectively as (1) the "crush method," whereby individual animals are dosed with the requisite amount of bone meal or other phosphatic substance; (2) the "lick method," in which the animals are expected to help themselves in a phosphate-salt mixture in troughs, and (3) the "drinking water method," in which a soluble phosphate has to be added to the drinking water in a concentration sufficient to ensure adequate intake. The third method has obvious advantages, but is rendered difficult to put into practice owing to the difficulties of supplying a suitable water-soluble phosphate. Mono-ammonium phosphate, mono-calcium phosphate and mono- and di-sodium phosphates are all suitable but are either unobtainable or prohibitive in price.

A method has now been devised whereby the common phosphatic fertiliser, superphosphate, may be rendered sufficiently low in fluorine to make it suitable for addition to the drinking water. On heating a concentrated solution of superphosphate a flocculent precipitate starts to form at about 55°C., and subsequent analysis of the filtrate indicates that whereas there is a significant reduction (about 84 per cent.) in the concentration of F there is a negligible loss (about 4 per cent.) of P from solution. The resultant solution, suitably diluted, can provide P for practical purposes and is sufficiently low in F to be safe for animal consumption.

The molecular composition of the precipitate formed on heating superphosphate solutions (containing mainly mono-calcium phosphate, calcium sulphate and an F compound) is not definitely known but the material is believed to be composed largely of dicalcium phosphate and calcium fluoride.

A. N. W.

* **Defluorination of Aqueous Solutions of Superphosphate for Use in Animal Nutrition.** Truter, G. T., & Louw, J. G. (1952). *Onderstepoort J. vet. Res.* **25.** 93–97.

LIVESTOCK IN ENGLAND AND WALES

The results of the March 4th, 1953, census in comparison with those for March, 1952, show that livestock numbers have increased in total cattle, pigs and poultry. The number of cattle (including calves) has risen to 7,682,000, an increase on the year of 178,000 (2 per cent.). Cows and heifers in milk were higher by 65,000 (3 per cent.) and dry cows by 6,000 (1 per cent.), but heifers in calf declined by 41,000 (6 per cent.) and bulls and bull calves by 5,000 (4 per cent.). Both categories of sheep included in the returns show increases on the year. The total of all pigs was 4,023,000, an increase on the year of 213,000 (6 per cent.). Total fowls were higher by 2,263,000 (5 per cent.), of which birds under six months old accounted for 1,426,000 (9 per cent.). Turkeys, ducks and geese also showed an increase on the year.

REVIEW

[The Distemper Complex. By L. F. & G. D. Whitney (1953). Practical Science Publishing Coy., Connecticut, U.S.A. Pp. 205. Price $5.]

The task of differentiating the several viral and spirochaetal diseases occurring in the dog has been a knotty problem for those of us who are expected to possess such ability. Even at this date, and with the collated information now available, the task remains supremely difficult. The clinical picture, at various stages of the various infections, is often bafflingly similar, a fact which again emphasises the value of close co-operation between the clinician and the laboratory.

The authors of "The Distemper Complex" are to be congratulated on having endeavoured to present all that is now believed or proved to be true by investigators from all over the world. One of the most extensive bibliographies ever to be found in a veterinary text-book (and comprising no less than 38 pages) has been included. It seems to contain nearly all that has ever been written concerning the diseases which are embraced by the term "Distemper Complex," although in some cases we note that early editions are quoted while later ones—with revised or additional information—have not been mentioned.

The book is presented in a free and easy, though none the less very readable, American style; yet we venture to think that for the qualified reader the text is perhaps unnecessarily explanatory. This may possibly be explained by a desire to interest the layman as well as the physician.

The authors make two remarkable statements:—1. "Only a few cases of spastic paralysis have been seen;" 2. "To date, flaccid paralysis has been the rarest form." Neither of these accords with the experiences of English veterinary surgeons who encounter both conditions much too frequently.

In a reference to Schlotthauer's work, it is interesting to note that "10 cases of paralysis had protruded discs." This is one more link in the chain of evidence that disc injuries *do* figure in the aetiology of paraplegia, in spite of the contrary opinion expressed by some British veterinarians.

We feel it is a pity that the term "hard-pad" disease is perpetuated in an up-to-date technical treatise. So many cases of the disease never have hard pads; it is a misleading term and we feel it should be dropped in favour of the more scientific appellation—para distemper.

These are small points, however, and we have no wish to disparage an excellent and useful piece of work which all intelligent readers are bound to find of intense interest, and particularly if their main concern is canine medicine.

"IMPOSSIBLE" FEAT BY ARMY MULE

In its issue of April 26th the *Sunday Dispatch* observes: "An impossible 'happy event' is reported to have happened. A mule has given birth, according to photographs that have just reached the R.A.V.C. by post from India. The photographs show the mule with a foal, but it has always been held by the British Army and other armies that have used mules, that these stub-born animals are sterile. A mule is the product of a donkey stallion and a horse mare. Accompanying the picture sent to the R.A.V.C. Headquarters at Aldershot is a report from Lieut.-Colonel D. Sahni, who said that there is no doubt that the mule did give birth to and suckle the foal. Through its official journal the Corps is asking its members to comment on this 'impossible' event and to try to explain it. One vital piece of information is missing: nothing is known about the father of the foal."

B.V.A. Council Meeting in Edinburgh

SUMMARY OF PROCEEDINGS

The hospitable atmosphere of the Royal (Dick) School of Veterinary Studies lends a genial air to the Association's annual visit north of the Border for the purpose of holding one of its quarterly meetings of Council. Moreover, the President (Mr. A. M. Graham) in taking the chair on Wednesday, April 23rd, 1953, had the satisfaction of knowing that his appeals for a more representative attendance of members from the South had borne fruit, for the Council was well attended and for the most part the Committees were properly filled.

The proceedings got off to a happy start in glad acceptance of Mr. Barker's motion to recommend Mr. G. H. Locke, of Cheadle, Cheshire, as a life member of the Association; also an intimation from the General Secretary that, at 3,876, the membership has regained the maximum reached in 1952. The preliminary business thus having been disposed of speedily, Council settled down to the consideration of those records of the Association's main activities, the reports of its Committees.

From the report of the Organising Committee it was learned that the Royal College is seeking to promote the holding of an initial meeting by all the principal parties concerned, to discuss the report of the Champion Committee on Licences under Section 7 of the Veterinary Surgeons Act, 1948. Through the medium of the Organising Committee, the question of the provision of veterinary services in London and its suburbs at night and during week-ends is to be examined in concert with the R.C.V.S. The Parliamentary and Public Relations Committee has discussed anew the problem, ventilated in *The Veterinary Record*, of action to stop the flagrant exhibition of docked animals in contravention of the law: a suitable letter is to be addressed to the secretaries of the main agricultural shows, seeking their co-operation.

Through the initiative of the Appointments Committee, the National Coal Board have received from the R.C.V.S. an indication of the views of that body on inviting tenders for appointments. Such, it appears, was not the intention of the Board in an advertisement submitted to but not accepted by this journal. The Committee felt that the representations made would probably influence the Board to avoid similar objections being raised to their advertisement in the future.

The report of the Veterinary State Medicine Committee, which document assumed its now customary outsize proportions, announced the receipt from the Ministry of Agriculture of proposals designed to extend the use of crystal violet vaccine. This new scheme for increasing the number of pigs immunised against swine fever, which offers pig-breeders facilities for vaccination by veterinary surgeons, was approved in principle.

The B.V.A. representatives on the Joint Committee with the B.M.A. reported on a variety of matters. One of great current agricultural interest is the marketing of fatstock and here, while the B.V.A. is not involved in the economics of the process, it is vitally concerned in the possible effects of any agreed schemes so far as they relate to such matters as the siting of abattoirs, the inspection of all animals (both *ante-* and *post-mortem*), arrangements for the welfare of animals in transit, in markets, in abattoirs, etc., arrangements for casualty slaughter, and disposal of condemned meat. Arrangements are being made by the Sub-committee for the further revision and bringing-up-to-date of the B.V.A. memorandum on Meat Inspection and Control.

In regard to pending legislation on the use of antibiotics in feeding-stuffs for animals, before any regulations are made under the Therapeutic Substances (Prevention of Misuse) Bill, both the R.C.V.S. and the B.V.A. will be consulted. Meanwhile representations are to be made to the Ministry of Health that any regulations for relaxing the restrictions imposed by the Penicillin Act, 1947 (the principal Act), should be subject to the operation of certain provisions for the protection of personnel of firms concerned with the preparation of diluted penicillin in the form of a supplement for addition to livestock feeding-stuffs. It is the Association's view that manufacturers should be responsible for adding penicillin to suitable diluents before issue to feeding-stuff vendors.

The Liaison Committee of representatives of the B.V.A. and the Animal Feeding-stuff Trade has held its first meeting, its potentialities for good being indicated by the fact that among the topics of mutual interest discussed were the allegations *re* feeding-stuffs as possible causes of death or injury to livestock; the increase in the spread of anthrax in 1952; the inadequacy of present sterilisation regulations and infection of clean materials transported in ships' holds; also the future use of antibiotics in feeding-stuffs.

In addition to participation in Governmental enquiries into the slaughter of horses and the siting and design of slaughter-houses this Committee has also considered suggestions for increasing the efficacy of swine fever control measures; also an approach to the Ministry to make available to veterinary surgeons new products for clinical trial, though here the view also was expressed that in regard to some of these new agents it was, rather, adequate laboratory trial that was required.

The report of the General Purposes and Finance Committee opened with reference to certain financial arrangements necessitated by our forthcoming move to No. 7, Mansfield Street, W.1. The gratifying intimation followed that the amount subscribed to the Steele-Bodger Memorial Fund to date was considerably in excess of £3,000 and that recommendations regarding its administration were being prepared by the Appeal Committee for presentation to Council at its July meeting. It was unanimously resolved that the Association should be represented at the XVth International Veterinary Congress (to be held in Stockholm in August) by the President, Mr. A. M. Graham, and the Senior Vice-President, Mr. A. J. Wright. The Editorial Committee report indicated enterprising developments in the acceptance of coloured plates to illustrate articles and of colour process reproduction for display advertisements, without additional expense to the Association; also in the arrangements made to increase the scope and topicality of the Notes and News columns and, finally, to reorganise the Abstracts Section.

Cordial thanks were voted to Professor Mitchell, Principal of the College, for the excellent facilities enjoyed by the B.V.A. Committees and Council, and members were cheered on their homeward way by news of the good progress being made by their esteemed colleague, Professor G. H. Wooldridge.

BIOLOGY AS AN ELEMENT IN LIBERAL EDUCATION

Opening the new biological laboratories of the University College of the South-West, at Exeter on April 24th, Sir Edward Salisbury, F.R.S., Director of the Royal Botanic Gardens, Kew, urged that biology should take its place not so much as a special discipline but as part of that liberal education which was an essential element in a cultured mind. In the teaching of biology, he said, there had been a tendency to mistake the imparting of mere information for the inculcation of knowledge. There was a temptation to put more and more facts into a syllabus, but, though a limited equipment of facts was a necessary part of training, the ideas that illumined and were deduced from the facts were much more important. The tendency to regard technical equipment as an end in itself was too prevalent in schools, and its correction in the universities was therefore the more important. The unity of knowledge was unbroken.

Two things were essential to a liberal education—breadth of sympathy and mental humility. There was no one road to mental salvation, either through the classics or through biology. It was all too easy for specialists to delve deeper and deeper into one particular furrow, and so become isolated by the by-products of their own activities, perhaps in the form of a superabundant technical jargon. The biologist's training must be widely based and he should certainly learn to write good English and to express himself succinctly and clearly.

One of the great problems, which applied to all universities, was the establishment of a first-year course in the fundamental sciences which would be profitable alike to the scientist and to the student of the humanities. He suggested that on such a basis modern specialisation could be superimposed without the restrictive evils that now so often went with it.

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We give below a form of certificate suggested by the Technical Development Committee and approved by Council, B.V.A.

Members who would be interested to secure a supply of such forms should communicate with Messrs. H. R. Grubb, Ltd., Printers, Poplar Walk, Croydon, Surrey, who will provide them in book form or as individual certificates according to members' wishes.

(*Space here for name and address of Veterinary Surgeon.*)

AGGLUTINATION TEST OR VACCINATION AGAINST CONTAGIOUS ABORTION

Name of animal ..... *Breed* .....

Date of birth .....

Earmark .....

Name of owner .....

Address .....

(*A*) *THIS IS TO CERTIFY that a blood sample was taken by me from the above animal and was forwarded to* .....

.....

(*Name and address of laboratory*)

Date sample was submitted to test ..... *Result* .....

(*B*) *THIS IS TO CERTIFY that the above-mentioned animal was inoculated with* Br. abortus, *vaccine No. 1* (*strain 19*) *on* .....

Date ..... *Signed* .....

Under Herd Book rules, the agglutination test is not necessary in stock vaccinated between the ages of four and eight months.

QUESTIONS IN PARLIAMENT

Experiments on Animals

Mr. Peter Freeman (May 7th) asked the Secretary of State for the Home Department how many certificates were issued last year to perform experiments on living animals under the Cruelty to Animals Act, 1876; in how many cases were no experiments performed; and whether he will consider curtailing the issue of such unnecessary certificates.

Sir D. Maxwell Fyfe: In 1952 I granted 678 licences, valid for five years. During that year 1,335 licensees performed no experiments under the Act. Every year the revocation of licences which have not been used during their currency is reviewed.

Mr. Freeman: Many of these 1,335 have never performed a single experiment since they first received a certificate, and will the right hon. and learned Gentleman not consider curtailing the number of certificates issued in this way?

Sir D. Maxwell Fyfe: We keep a check on current years to find the licensees who have not performed an experiment. When we have discovered this, we work back to see whether they have up to that time not performed an experiment for, say, four or five years. If they have not, we prune the list.

* * * *

Civil Servants (Retiring Age)

Mr. G. Williams (May 7th) asked the Financial Secretary to the Treasury what conditions are laid down as to the age of retirement for male and female Civil Servants.

Mr. Boyd-Carpenter: With a few exceptions the minimum age of retirement for established Civil Servants is 60, both for men and for women. It is the Government's policy that staff should be retained beyond the minimum retiring age for as long as practicable consistently with the needs of the work and the fitness and efficiency of the individual. Each individual case is considered on its own merits and there is no differentiation in the treatment of men and women Civil Servants in this respect.

NOTES AND NEWS

Diary of Events

May 16th.—Meeting of the Biochemical Society, in the Department of Physiology, The Medical School, Hospitals Centre, Birmingham, 15, 1.45 p.m.

May 19th.—Meeting of the East Midlands Division, B.V.A., at Sutton Bonington (School of Agriculture), 2.15 p.m.

May 20th.—Meeting of the Section of Comparative Medicine, Royal Society of Medicine, at 1, Wimpole Street, W.1, 5 p.m.

May 21st.—Annual General Meeting of the Dumfries and Galloway Division, B.V.A., at Dumfries (The County Hotel), 2.15 p.m.

May 22nd.—Second Annual General Meeting of the Society for the Study of Animal Breeding, at the National Institute for Research in Dairying, Shinfield, Reading, 2 p.m.

R.C.V.S. Engagements in Edinburgh

May 27th to 29th, 1953, R.C.V.S. Committee and Council Meetings: Quarterly Meeting of Council, May 29th; preceded by Special Meeting of Council. At the Royal (Dick) School of Veterinary Studies, Edinburgh, 9.

May 27th.—Annual General Meeting of the R.C.V.S., 4 p.m., to be held at the Royal (Dick) School of Veterinary Studies, Edinburgh, 9.

May 27th.—Annual General Meeting of the Victoria Veterinary Benevolent Fund, 4.30 p.m., to be held at the Royal (Dick) School of Veterinary Studies, Edinburgh, 9. R.C.V.S. Dinner in Edinburgh, 7 p.m.

May 28th.—Annual General Meeting of the Herts & Beds Division, B.V.A., at Luton (The George Hotel), 7.30 p.m.

May 28th.—Spring Meeting of the Eastern Counties Division, B.V.A., at Ipswich (Great White Horse Hotel), 11 a.m.

May 29th.—Meeting of the Royal Counties Division, B.V.A., at Oxford (The Randolph Hotel), 2.30 p.m.

May 30th.—Annual General Meeting of the Society of Women Veterinary Surgeons, at the Royal Veterinary College, N.W.1, 2.30 p.m.

June 19th.—Annual General Meeting of the Association of Veterinary Teachers and Research Workers (Scottish Regional Group) in the University of Glasgow Veterinary School, 2 p.m.

June 12th.—Annual Dinner of the R.A.V.C. Officers' Club, at Grosvenor House, London.

June 18th.—Summer Meeting of the Section of Comparative Medicine, Royal Society of Medicine, at the Wellcome Research Laboratories, Langley Court, Beckenham, Kent, 2 p.m.

Aug. 9th—15th.—XVth International Veterinary Congress, Stockholm, Sweden.

Sept. 6th—12th.—Seventy-first Annual General Meeting and Congress of the British Veterinary Association, at Aberdeen.

R.C.V.S. Examinations

Thursday, June 4th.—D.V.S.M. Written Examination commences at Edinburgh (2 p.m.).

Monday, June 8th.—D.V.S.M. Orals and Practicals.

Thursday, June 25th.—M.R.C.V.S. Written Examinations.

Friday, June 26th.—Ditto.

* * * * *

R.C.V.S. Dinner in Edinburgh

We would remind our readers that the annual general meeting of the Royal College of Veterinary Surgeons at 4 p.m. on Wednesday, May 27th, at the Royal (Dick) School of Veterinary Studies, University of Edinburgh, will be followed by a dinner for all members of the Royal College of Veterinary Surgeons and their ladies at the North British Hotel, Edinburgh. This will be at 7 p.m. for 7.30 p.m. (evening dress). The cost will be £1 per person, inclusive of coffee but not of drinks. Applications for tickets, together with remittance, should be made to:—

The Registrar,
R.C.V.S.,
9, Red Lion Square,
W.C.1,

who will supply any other information which may be required.

* * * * *

PERSONAL

Births.—Clarke-Williams.—On May 2nd, 1953, to Frances and Peter Clarke-Williams, the gift of a daughter.

Parkinson.—On April 26th, 1953, at Hereford, to Susan (*née* Mills), B.V.Sc., M.R.C.V.S., and W. G. Parkinson, B.V.Sc., M.R.C.V.S., a daughter—Rosalind Mary.

* * * * *

Marriage.—Jones—Roberts.—The marriage took place on April 4th, 1953, at Carmel Baptist Church, Llanharan, between J. E. T. Jones, M.R.C.V.S., of Ystalyfera, Swansea, and Miss Marion Roberts, of Llanharan, Glam.

* * * * *

Ministry's Veterinary Field Staff.—The following change has recently been announced: Mr. J. M. Fraser, M.R.C.V.S., D.V.S.M., transferred from Fishguard Port to Llangefni as Divisional Veterinary Officer in charge of Anglesey.

* * * * *

Professor Milne's New Appointment.—Major Francis J. Milne, M.R.C.V.S., is to leave Fort Collins, Colorado, for Canada next month to take up the appointment of Professor of Surgery in the Ontario Veterinary College. Professor Milne is scheduled to address the Annual Convention of the American Veterinary Medical Association in Toronto this July, his subject being "Modern Trends in Large Animal Anaesthesia."

* * * * *

R.C.V.S. OBITUARY

Barlow, John Andrew Armstrong, M.R.C.V.S., 23, King Street, Ashbourne, Derbyshire. Graduated London, December 21st, 1921. Died May 3rd, 1953.

McCall, James McIntosh, M.B., C.M., M.R.C.V.S., 4, Grosvenor Mansions, Hillhead, Glasgow. Graduated London, May 16th, 1890. Died May 6th, 1953; aged 87 years.

* * * *

Dr. J. M. McCall

Dr. James McIntosh McCall, whose death we record above with much regret, was for 25 years Deputy Chief Veterinary Officer at the Ministry of Agriculture in London.

Dr. McCall was the eldest son of the late Principal James McCall, of Glasgow Veterinary College, where he taught for many years. He joined the Ministry of Agriculture's staff in London in 1900 as Deputy Chief Veterinary Officer and retired in 1925. For the past three years he had lived in Glasgow with his brother, Professor John R. McCall.

* * * * *

University Jubilee at Liverpool

DISTINGUISHED VISITORS TO THE FIELD STATION OF THE VETERINARY SCHOOL

The University of Liverpool, which holds a special place in the interest and affections of members of the profession as being the first to create a Faculty of Veterinary Science, enjoyed a noteworthy programme of events in connection with the celebration of its jubilee, from Friday, May 1st, to Saturday, May 9th.

The first of the major items in the celebrations took place on Tuesday, May 5th, when a service of thanksgiving—the Archbishop of York was the preacher—was held in the cathedral. In the evening more than 400 guests attended a dinner. On the following day there was a civic luncheon and a degree ceremony, at which the Queen Mother was to have received the honorary degree of Doctor of Laws. As Her Majesty was unable to attend the celebrations on account of family bereavement, the presentations and certain other ceremonies which had been arranged for the Wednesday morning were cancelled. Among the alternative arrangements made for the entertainment of its distinguished guests, the University arranged a visit to the Field Station of the Veterinary School on the Wirral Peninsula.

Among those who availed themselves of this opportunity were the Vice-Chancellors of the Universities of Manchester and Nottingham, the Principal of the University College of South Wales and Monmouthshire, the Provost of the Welsh National School of Medicine, Representatives of the Association of Universities of the British Commonwealth, and ladies.

It was fortunate that the weather was perfect and the Field Station could be seen at its best. The visitors showed the greatest interest in the Clinical Departments, Animal Husbandry and Preventive Medicine.

By Her Majesty's wish the ceremony proceeded in her absence for the conferment of degrees on Sir Patrick Abercrombie, Lord Alexander, Colonel Vere Egerton Cotton (Senior Pro-Chancellor), the Archbishop of York, and Sir John Stopford (Vice-Chancellor of the University of Manchester).

The University and its Veterinary School

The University College, which in 1903 was merged in the University of Liverpool, was founded in 1881. For most of the intervening time it had been a federal member, with Owens College, Manchester, and the Yorkshire College, Leeds, of the Victoria University, Manchester, which had power to grant degrees. Its own charter as a university was signed on July 15th, 1903.

Development came rapidly. Within 10 years the number of students was doubled and, by private benefaction and public subscription, buildings began to grow up around the nucleus of the old college.

By 1947 the University had a student roll of 3,360. Only by the city corporation's agreement to incorporate room for university expansion within the city development plans was the University enabled to stay inside the city boundary. The new buildings now arising, the medical school block, and the inorganic chemistry laboratory, follow that scheme, which will unfold as means allow.

For a young university Liverpool has notable achievements. Orthopaedic surgery as a science offered its first degree here; the school of tropical medicine was the first in the country, as was the school of architecture with its allied school of civic design; and, as noted above, the veterinary school was the first to hold a faculty. In point of fact it was a very bold move to meet the demand for veterinary training that was made in 1904, when the New Veterinary College of Edinburgh was transferred to Liverpool and its Principal, Mr. Owen Williams, appointed to a Chair of Veterinary Medicine and Surgery. Since then, Liverpool has always been prominently associated with veterinary science. For many years it possessed the only veterinary school within a university and it was devotedly served by its teachers, notably Professor J. Share Jones, who was Director from 1918 to 1938. Although there are now other university schools, Liverpool has retained a leading place, and the further expansion of its work and prestige was recognised when it was created a Faculty of Veterinary Science, the only new Faculty to be added by the University since its inception to the five named in the charter of 1903.

It is interesting to note, from the history of the University contributed to the special supplement of the *Liverpool Daily Post* by the Registrar, Mr. Stanley Dumbell, that when in the fullness of time, final effect is given to the development plan, Abercromby Square is intended to be the administrative hub of the University as it will also be its approximate physical centre.

There were two projects, one already in being and one in progress, which stood outside the area covered by the report of the Development Committee set up by the University Council in 1946. The first was the Veterinary Field Station at Neston, opened in 1942, which enabled veterinary students to obtain direct clinical experience in the treatment of animals. Its beginnings were modest, inevitably so under war conditions, but its subsequent growth and the influence which it has exerted on the establishment of similar centres elsewhere have been proof of its value. A dormitory block and the laboratories of a new Department of Veterinary Preventive Medicine have been added since the war. The pioneering development on the Wirral Peninsula has been carefully shepherded to success by the Professor of Veterinary Surgery and Chairman of the Board of Veterinary Studies, Professor J. G. Wright (the present President of the Royal College of Veterinary Surgeons) and his colleagues.

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BECCLES STAGES FIRST SHOW OF A.I. CATTLE

Achievement After Foot-and-Mouth Setback

The fine achievement of holding the first show of cattle bred by artificial insemination, all of them by bulls used at Beccles (the first team, that destroyed in the foot-and-mouth outbreak) stands to the credit of Mr. G. F. Smith, veterinary officer at the M.M.B.'s cattle breeding centre there, and the President, Mr. C. W. Cargill. Constituting the show were some 90 in-calf and in-milk attested cattle, five breeds being represented, and many of the classes being well up to County Show standard.

Despite atrocious weather there was a good attendance and the Board and the Centre Committee indicated their satisfaction at the venture.

The National Advisory Service co-operated in providing exhibits of dairy management and grassland improvement, while educational exhibits emphasising the important part the farmer had to play in obtaining good breeding results through A.I. attracted much attention.

Commenting on the event, the *Farmer & Stock-breeder* observed: "If there are still any sceptics who believe that animals bred by A.I. are in some way inferior to those bred naturally, the excellent and uniform quality of the exhibits here would surely have swayed their opinions. Since nearly all were from small herds which could not normally support a valuable bull likely to get the best type of stock, the show did great credit to the stud of bulls used at the centre.

"The event was a personal triumph for Mr. G. F. Smith, Secretary and Organiser of the show, who has been veterinary surgeon in charge of the Beccles centre since its inception, and for Mr. C. W. Cargill, who founded the centre and is still its President."

The proceedings ended with the annual general meeting, when Mr. Smith reported on the centre's activities during the year, saying that the disaster of foot-and-mouth disease had now been left behind and that the centre had served 38,000 cows in the year.

Dr. Edwards, D.Sc., Chief Scientific Adviser to the Milk Marketing Board, later addressed the meeting on his recent tour of New Zealand.

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LEGAL NOTES

Fine for Rubber-banding Teats of "Nervous" Cow

Exeter magistrates recently imposed a joint fine of £5 on Major Wilfred Hampson, of Greenslade, North Tawton, and his wife, who pleaded "Not guilty" to an allegation that they caused unnecessary suffering to a cow by constricting its teats with rubber bands.

Inspector J. R. Pickett, R.S.P.C.A., said that at Exeter Cattle Market on February 20th he found grooves in the teats caused by the bands, one of which he removed. The cow appeared uncomfortable and there would have been a certain amount of stoppage of blood.

Mr. Samuel Loughridge, M.R.C.V.S., an Exeter veterinary surgeon, said that from the evidence he considered the animal was caused unnecessary suffering.

Called on behalf of the defendants, Major Frederick Fry, M.R.C.V.S., a North Tawton veterinary surgeon, said he did not approve of putting rubber bands on a cow's teats, but when he examined the cow 48 hours after Inspector Pickett saw it, he considered it had not been caused any pain or suffering.

Mr. Hampson said the bands were used because the cow was nervous, and on a previous journey to market had let down all her milk.

The magistrates announced that they were unable to accept the suggestion that the cow did not suffer, but they did not believe the Hampsons had deliberately caused any suffering.

Notice of appeal was given.

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Six Months for Slaughtering Offence.—When his employees reported that a bull was mad, William Hollowell, aged 71, farmer and owner of six butcher shops in the Warrington area, was stated (says the *Meat Trades Journal*) to have ordered a psychiatrist to see the bull. Hollowell was sent to prison for six months for causing a bull to be slaughtered without a licence. Mr. T. Steel, defending, gave notice of his intention to appeal.

Jack Daniels, aged 34, butcher's assistant, was fined £2 for slaughtering the bull without a licence. Both pleaded not guilty.

Mr. J. A. L. Denison, prosecuting for the Ministry of Food, said it would be necessary for the defence to prove that the slaughter of the bull was immediately necessary because of accidental injury or illness. The carcase had been examined by a sanitary inspector, who said the animal had been free from illness.

Mr. Steel said that Hollowell had only recently bought the bull for stock breeding and it was unlikely he would order its destruction if it could have been saved.

Mr. J. S. Haselhurst, defending Davies, said he had been called upon to slaughter a mad bull and had done so.

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

ANTHRAX:

Cheshire.—Pavement Lane Farm, Mobberley, Knutsford; Home Farm, Chelford (May 4); Moor End Farm, Kinverton, Chester (May 6).

Cumberland.—Flosh Farm, Cleator (May 4).

Denbighshire.—Cox Lane Farm, Rossett, Wrexham (May 4).

Glos.—Rectory Paddock, Church End, Twyning, Tewkesbury (May 6).

Kent.—Leacon Farm, Westwell, Ashford; Lower Deans Farm, Harrietsham, Maidstone (May 4).

Kirkcudbright.—Knockgray Cottage, Carsphairn, Castle Douglas (May 4).

Lancs.—Brandreth Farm, Tarlescough, Burscough, Ormskirk (May 4).

Perthshire.—Cairnbeddie Farm, St. Martins, Balbeggie, Perth (May 4).

FOWL PEST:

Hants.—Hill Corner Farm, Cove, Farnborough; Hunters Race, White Lane, Ash Green, Aldershot (May 2).

Middlesex.—30, Bear Road, Hanworth (May 2); Holly House Farm, Sion Lane, Isleworth; 191, Seltham Road, Ashford (May 7).

Surrey.—Frogmore Park Dairy, Blackwater, Camberley (May 1); Whitnorth, Shalford, Guildford (May 6); Woolgar's Farm, West Horsley, Leatherhead; Farm near Kingston Road Allotments, New Maldon; Kimberley House, Woodlands Road, Little Bookham; Glenelg, Markenfield Road, Guildford (May 7).

SWINE FEVER:

Ches.—Racecourse Farm, Lindow Lane, Wilmslow (May 7).

Cornwall.—Fore Street, Constantine, Falmouth; 15, Trelawney Road, Camborne (May 5).

Essex.—Ludham Frint Farm, London Road, Braintree; 1 Colchester Road, Lawford, Manningtree; Green End Farm, Great Holland, Frinton-on-Sea; Aerodrome Piggeries, Great Sampford, Saffron Walden (May 5); Green Lane Farm, Weeley, Clacton-on-Sea (May 6); 94, Southend Road, Rochford (May 7).

Glam.—Tyn-y-Garu, Aberkenfig, Bridgend (May 7).

Glos.—The Piggeries, Shorncote, Cirencester (May 5); Upper Field, Swindon, Cheltenham (May 6).

Herts.—Green Farm, Hemel Hempstead (May 6).

Kent.—Jersey Farm, Powder Mill Lane, Hildenborough, Tonbridge (May 6); Basing Farm, Cowden, Edenbridge (May 7).

Lancs.—Helm House Farm, Rufford, Ormskirk (May 6).

Montgomery.—Tycornel Farm, Dolfor, and Highgate Farm, Bettios Cedewen, Newtown (May 5).

Norfolk.—Sycamore Farm, New Common Marsh, Terrington St. Clement, King's Lynn (May 5); "Four Winds," Gurney Road, Costessey, Norwich (May 6); Burley House, Norwich Road, Besthorpe, Attleborough (May 7).

Northants.—Brown's Butcher's Yard, West Street, King's Cliffe (May 6).

Salop.—The Fields Farm, Northwood, Shrewsbury (May 5); Ousley Farm, Aston Eyres, Bridgnorth; Marton Lane, Baschurch, Shrewsbury (May 6); Lower Sutton Farm, Chelmarsh, Bridgnorth; Greenfield, Treflach, Oswestry (May 7).

Suffolk.—Rectory Farm, Earl Soham, and Duall's Farm, Bredfield, Woodbridge (May 5); Willow Grove Farm, Lakenheath, Brandon; Falstaff Manor, Bentley, Ipswich; 9, Nansen Road, Ipswich; Moorland Road Allotments, Ipswich; Hall Farm, Beccles (May 6)

Warwicks.—Home Farm, Cherrington, Shipston-on-Stour (May 7).

Wilts.—Lavender Farm, Shaw, Melksham (May 5).

Yorks.—The Grange, Nafferton, Driffield; Hatton House, Bishop's Thornton, Harrogate (May 6); Allotments at St. Margaret's Avenue, Cottingham; Towton Hall, Towton, Tadcaster; 6, Lapplands Lane, Ryhill, Wakefield (May 7).

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LIMITED RELAXATION OF BAN ON IMPORTATION OF PARROTS

The ban on the importation into Great Britain of birds of the parrot family has been relaxed in respect of imports from the island of Jersey, the Isle of Man and Northern Ireland. The ban was imposed as a safeguard against the introduction of psittacosis and fowl pest from abroad and this relaxation is now being made because the authorities in these three places have imposed similar restrictions on the importation of parrots from abroad.

Copies of the Parrots and Miscellaneous Birds (Prohibition of Importation) (Amendment) Order, 1953, authorising this relaxation may be obtained from H.M. Stationery Office or from the Ministry of Agriculture and Fisheries, Hook Rise, Tolworth, Surbition, Surrey.

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Some Aspects of Veterinary Preventive Medicine in Yugoslavia

During the war livestock breeding, which once stood at a high level, suffered heavily in Yugoslavia: at its close only miserable traces of the large farms remained, states the Yugoslav International Tourist Office Press Service.

Now, sheep, more numerous than all other livestock put together, total over 10,000,000, while in a year or so herds of pigs in fattening sties, and grazing cattle will increase their contribution of fats, meat and hides. With this goal in mind, veterinary workers are achieving excellent results. Scientific training, modern appliances and methods now replace the patriarchal primitiveness and superstition of the peasants: stations carrying stocks of vaccines and medicines are being set up in what used to be remote areas. They have first-aid and artificial insemination sections, while section stations are being established with farm co-operatives and stock-farms. The universities are supplying specialists, the secondary and lower veterinary schools are contributing auxiliary personnel, while attendants are drawn from the co-operatives themselves. Hygienic stables and barns are being built and every attention is being devoted to the proper feeding of livestock.

Special attention is given to disease prevention. Dourine has been suppressed among horses, and in 1948 there were only four cases; fowl pest has been curbed; also glanders among horses, and dogs have been vaccinated on a large scale against rabies. Extensive inoculation has likewise been carried out against anthrax, swine fever and swine erysipelas. On the eve of the war the first veterinary serum institute was founded, at Zemun. The end of the war saw the end of commercialism previously dominant in this sphere of veterinary service. A modern institute grew out of Bering's private concern in Subotica: improvements in livestock breeding demanding the foundation of a large institute for the manufacture of a wide range of biological agents. Eventually, new institutes were built in various parts of the country. During recent years these institutes have mastered the manufacture of complex agents. In experimental work, Teschen disease amongst pigs has been overcome, the swine fever serum ranks very high, while a new method of manufacturing anthrax spore-vaccine has been discovered and the advantages of dried fowl-diphtheria vaccine and aluminium-sulphate precipitate vaccine

against fowl cholera have been demonstrated. A fowl pest vaccine has been obtained which gives poultry almost life-long immunity. In addition, the dried lymph for sheep pox now being manufactured is far more convenient for long-distance transport than the liquid lymph, especially under high temperatures, when the liquid product loses its potency. Crystal violet vaccine is used to clean vast areas of swine fever. This is a new agent in Yugoslavia: its manufacture began a few years ago. Adsorbed vaccine against swine erysipelas, a disease which appears in almost all European countries, and causing especially disastrous damage in Yugoslavia, is also being manufactured. Its use is much to be preferred to the earlier method of vaccination with live culture, which involved the handling of the living organism, as well as its multiplication and survival in the field. This vaccine is cheaper and offers longer immunity.

These veterinary workers were among the first to put into practice the production of fowl pest sera obtained from horses and pigs, turkeys having formerly been used in Hungary for this purpose: that method did not pay, for whereas 10 turkeys or 100 chickens were required for one unit of this vaccine, an otherwise useless horse yields 100 units. Fowl pest attacks almost all parts of Yugoslavia. In some regions conditions were so serious that they endangered poultry farming. The new vaccine is being manufactured in all the institutes, thanks to the help of the delegate of the United Nations Food and Agriculture Organisation.

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BITTEN BY VIPERS TO PROVE SERUM CLAIM

Reuter's Correspondent reports from Saignelegier, Switzerland, that Mons. M. J. Pontet, a 28-year-old Swiss, allowed himself to be bitten by three vipers in a hospital there to prove that he had discovered a serum against snake bites. "Watched by his wife, a lawyer, five doctors, the local priest, and about 20 onlookers, he held the vipers while they bit his right forearm. A rabbit was bitten by a fourth viper to prove that the snakes were venomous. Two hours after the experiment Mons. Pontet's pulse and blood pressure were stated to be normal, though his arm was a little swollen. The rabbit was dead."

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CRYPTORCHID AND MONORCHID DOGS

Kennel Club Adheres to its Policy to Accept for Exhibition

In its April issue the *Kennel Gazette* announces that at the meeting of the General Committee of the Kennel Club held on March 3rd, 1953, the following item from the Kennel Club Liaison Council was considered: "That the Kennel Club review the position of cryptorchids and monorchids in British dogs with especial reference to the effect this is having, or likely to have, on the export market of pedigree dogs."

Having reviewed this matter, the Committee agreed not to vary the existing decision that as the condition of cryptorchidism and monorchidism does not necessarily imply sterility, and is not therefore comparable to castration which is brought about by an operation (this point being covered by Kennel Club Show Regulation 28(*d*), disqualifying such an exhibit), there is no objection to the exhibition of a cryptorchid or monorchid as such. "Further, it is not a part of the duty of a judge in the ring to consider such veterinary questions. The judge should judge the dogs before him from the point of view of their most closely approximating the ideal standard of points in the breed.

"The Committee does not agree with the view that this decision has, or is likely to have, any adverse effect upon the export of dogs. The Committee has not received a single complaint from any overseas buyer on the ground that the dog which he has purchased is ineligible for exhibition by reason of the fact that it is a cryptorchid or monorchid. The American Kennel Club has no rule or regulation dealing with the eligibility of a dog to compete at a show because of cryptorchidism or monorchidism. In certain breed standards in the U.S.A. both cryptorchids and monorchids are barred while in others cryptorchids are barred and monorchids faulted. As from January 1st, 1953, the countries which are under the control of the Federation Cynologique Internationale have decided that both cryptorchids and monorchids are ineligible for exhibition and it remains to be seen whether this will work satisfactorily in practice. The F.C.I. has, however, delayed its decision with regard to cryptorchidism and monorchidism in working dogs, no doubt owing to practical difficulties.

"When speaking of the registration and exhibition of dogs on the Continent, it is sometimes not appreciated that the numbers are quite small when compared to the dogs registered and exhibited under Kennel Club Rules. The continental registrations compare even more unfavourably with those in the U.S.A. where they are two and a half times greater than in the British Isles.

"The ineligibility of cryptorchids and monorchids is by no means universal at the present time and as regards the overseas buyer, the Committee of the Kennel Club is of opinion that the onus is upon him to satisfy himself, by demanding a veterinary surgeon's certificate, that the dog which he has been offered is not a cryptorchid or monorchid if such dogs are ineligible for exhibition in the country in which the buyer resides. It is, however, the intention of the Committee of the Kennel Club to advise all overseas clubs of its policy in regard to this matter."

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"EXTRAORDINARY DROP" IN (HUMAN) MORTALITY FROM TUBERCULOSIS

The Geneva Correspondent of *The Times*, in a message to his paper dated May 3rd, reports the announcement by the World Health Organisation that an "extraordinary drop has taken place in mortality from tuberculosis of the respiratory system during the period extending from immediately before the war up to the present time," and that it is "no exaggeration to say that this decrease constitutes one of the most sensational developments ever recorded in the field of public health."

In its annual epidemiological and vital statistics report, the organisation covers a group of 21 countries with 404,400,000 inhabitants (17 per cent. of the world population). It has reached the conclusion that the death-rate from tuberculosis has decreased by as much as half since 1936-38; morover, the report predicts that the death-rate "will probably disappear as the young generation of to-day, who have been adequately protected against the disease," reach an advanced age.

This improvement is held to be due to the progress made by certain countries in the control of tuberculosis by energetic mass action undertaken for the early detection of the disease (radiography tests), for prevention (B.C.G. vaccination), and for the control of foodstuffs (milk); improved medical facilities resulting from collective insurance systems, and recent progress in tuberculosis therapy are also mentioned as important factors.

The experts report that the tendency of the male mortality rate to be higher than that for females has now become "very much more marked." This is considered to be a development "observable in relation to most diseases, and which is demonstrated by the general mortality figures for the two sexes." The explanation given is that "progress in recent years in the social field and in the field of hygiene has affected women's living conditions more than those of the male sex."

According to the report the apparent increase in deaths from tuberculosis among old people must not be regarded as a real deterioration in the situation, but rather as an accumulation of deaths which have been deferred, or, alternatively, of lives which have been prolonged up to the limit at which the lessened resistance due to advanced age finally results in death.

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SWINE FEVER

For the first half of this month the number of confirmed outbreaks of swine fever exceeded 200. April had 455 confirmed outbreaks, in what it is hoped will prove to have been the peak month in the present epidemic, when a prohibition of movement order was introduced in the three largest affected areas. The figures for the earlier months of the year were January, 115; February, 178 and March, 270.

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It is now expected that the Government will provide facilities for the Dogs (Protection of Livestock) Bill to become law before the Summer Recess. The Bill has been accorded a formal Second Reading in the Commons and committed to a Standing Committee. This is the same Bill as was introduced by Mr. W. Teeling in March, but was "talked out" despite support from all parts of the House.

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It is interesting to read that the New Zealand Veterinary Service Council have recently completed a documentary of some 1,800 feet, entitled "Veterinary Surgeon." Not only does the film publicise the openings in State service, but it also shows the private practitioner and research man at work.

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After a number of deaths among dogs at Little Bookham, Surrey, the owners have sought the aid of the police. Three dogs have been poisoned, one was found shot, and two others are missing.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

BLOOD SAMPLING CATTLE

Sir,—The article by Mr. Hole in your issue of May 2nd describes a novel "bleeding unit" for individual cows when sampling a whole herd and while agreeing with many of the points expressed I would like to add the proviso—always use a *very sharp needle*. To some readers it may seem somewhat superfluous to mention this, but in the course of 10 years' experience of bleeding cattle under experiment I have always considered this point as being of prime importance. Occasions invariably arise on certain farms where the individual holding the animal is not so efficient as one would perhaps wish and in such circumstances the operator has often to act very quickly—at moments such as these, the really sharp needle is indeed a blessing. I often wonder how many veterinary surgeons make a routine check of their needles; it is time well spent and yet many people continue to use the same needles over and over again until they eventually become so blunt that they fail to pierce the skin without a great deal of force being applied by the operator. Moreover, I would not exempt members of the medical profession from this criticism. Personally, on fortunately rare occasions, I have experienced the very unpleasant sensation of a blunt needle being forced through my own skin, whereas with a really sharp needle practically no pain is felt.

Every needle taken on a blood testing expedition should be checked before and after use and sharpened if necessary before storage.

I still favour the use of a syringe and needle for general purposes. When bleeding cattle I use a two-piece "Vim" syringe, silver-seal pattern and a small 1½ inch 14/10 needle. If plenty of sterile needles and syringes are available and the usual precautions observed there should be no risk of contamination especially if sterile N. saline is used for washing out the syringes.

In milking herds, tied up in sheds, I have always favoured the mammary vein technique using a needle without a syringe. This has the obvious advantage that the animal's head can be left well alone and the attendant can concentrate on holding up the cow's tail like a pump handle to minimise the risk of kicking. In this way two animals can be bled almost simultaneously without the operator moving back from his position between the animals.

Nearly all the cattle we deal with are Ayrshires—"the most treacherous" breed according to Mr. Hole—but using the "syringe and needle" method or the mammary vein technique, we would consider something far wrong with our organisation if we dropped below the 100 per hour mark—with perfect conditions we expect to bleed at least 130 per hour.

Most of the 1,100 head of cattle at Compton are bled at least four times a year, many far more frequently if involved in experiments, so that, apart from the collection of samples from outside herds, we probably collect well over 5,000 samples per annum from our own herds.

There is little doubt, of course, that practice makes perfect but I would like to take this opportunity of urging veterinary graduates to devise neat and tidy methods for the withdrawal of blood from any of the domestic animals. Nothing is worse for one's reputation than a struggling animal and an exasperated operator.—Yours faithfully, Archd. McDiarmid, Agricultural Research Council, Field Station, Compton, Near Newbury, Berkshire. *May 4th*, 1953.

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TREATMENT OF CHRONIC ECZEMA, WITH ALOPECIA

Sir,—After reading the letter by Fawcus (*Vet. Rec.* 1953. **65.** 116) on the successful treatment of alopecia, affecting the ears of dogs, by means of a cream containing a 1 per cent. silver dinaphthylmethane disulphonate (Viacutan), I consider the following case history may be of interest to your readers:—

The case presented to me was a Bulldog bitch, aged three years, suffering from chronic eczema of long-standing, which had failed to respond to all the usual lines of treatment.

This dog was practically hairless across the back and hindquarters, with numerous reddened and weeping areas. This case was treated with Viacutan cream rubbed into the lesions daily for seven days, and then every second day for another week.

The loss of hair and itchiness ceased on the third day and hair-growth commenced from the seventh day. At the end of three weeks, hair-growth was quite marked and in two months' time the animal showed a normal coat, with no signs of eczematous areas whatsoever.

In view of this remarkable response I should be interested to learn if other veterinary surgeons have obtained similar results in refractory cases of eczema.—Yours faithfully, P. V. Merewether, 123, Bowral Street, Bowral, New South Wales, Australia.

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THE MID-WEST ASSOCIATION

A Reflection

Sir,—At a meeting of the Mid-West held in Bristol on May 1st I regret to say I missed hearing Mr. Peacock's paper on "The Trend of Modern Surgery," but I did hear Mr. Messervy, who opened the discussion in a well-thought-out address, and I was particularly pleased to notice he emphasised the fact of a lack of co-operation existing among the members of the two branches of medicine. It may be of interest to note that as far back as 1920 my old friend Sir Clifford Allbutt enlisted the support of Sir Fred Hobday and myself with the view of breaking down this watertight compartment status existing between human and comparative medicine to the detriment of both.

This was the preliminary step which culminated ultimately in the formation of the Section of Comparative Medicine in the already well-established Royal Society of Medicine.

Sir Clifford, in addition to being a man of genius, was a man of vision many decades ahead of his contemporaries for he not only embraced man and beast but also plant pathology.—Yours faithfully, W. M. Scott, Fryern Hall, Bridgwater.

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CONTROL OF "STREET DOGS"

Sir,—My critic does at least agree with me that too many dog owners are very careless in allowing their dogs to roam at large; nevertheless, it is very difficult to believe that the letter published in your issue of May 2nd was written by one who has been a member of the veterinary profession for so long.

I should like to know what exactly is responsible for such personal antagonism. Surely any proposals which might bring about a reduction in the incidence of hard pad and distemper, the worrying of sheep and road accidents caused by dogs should be met with approval.

With regard to the methods, surely my critic would not contemplate such kidglove methods as advising the owner to tell naughty Fido not to do it again; nor, surely, would he go to the other extreme of using Gestapo methods and shooting the dogs on sight. If the staff of dogs' homes are capable of taking possession of street dogs then surely policemen are capable of acting similarly while on their beats.

In my letter, the meanings of street, road and public thoroughfare are synonymous.

I should like to reassure my critic that the future of the profession will be safe in the hands of the present-day veterinary students with their initiative, enthusiasm and determination to succeed—qualities which their predecessors possessed before them.—Yours faithfully, D. A. P. Grattan, Streatley House, Streatley, Berks. *May 3rd*, 1953.

DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Sheep Scab	Swine Fever
1st to 15th April, 1953	32	2	9	—	218
Corresponding period in—1952	16	16	27	—	74
1951	22	—	12	—	38
1950	12	—	8	1	—
1st January to 15th April, 1953 ...	326	24	192	—	781
Corresponding period in—1952	135	72	92	1	349
1951	168	17	481	4	248
1950	138	12	60	19	1

Tuberculosis Order of 1938

The number of bovine animals slaughtered under the Tuberculosis Order of 1938 during the period January 1st to March 31st, 1953, was 684.